

PATENT ABSTRACTS OF JAPAN

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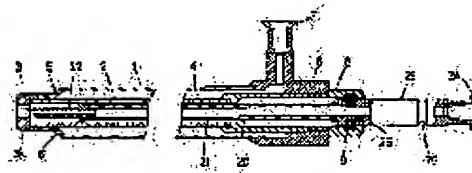
(21)Application number : 08-331979	(71)Applicant : ASAHI OPTICAL CO LTD
(22)Date of filing : 12.12.1996	(72)Inventor : OUCHI TERUO

(54) TREATMENT APPLIANCE FOR ENDOSCOPE

(57)Abstract:

PROBLEM TO BE SOLVED: To quickly remove and clean the blood, mucus etc., and easily and quickly treat it, even in the case where a part to be treated is covered with the blood, mucus, etc.

SOLUTION: This treatment appliance is so constituted that a fluid path 4 is formed between an inner tube 2 in which a member 20 for treating the body cavity is inserted and arranged and an outer tube 1 which is inserted in/drawn out from a channel 11 of an endoscope, across the whole length in the tube axial direction. A hole for opening the fluid path 4 to the outside is formed in the tip part and a connecting part 7 for communicatingly connecting the fluid path 4 to a water feeding device or a sucking device is provided in this side.



LEGAL STATUS

- [Date of request for examination]
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- [Date of final disposal for application]
- [Patent number]
- [Date of registration]
- [Number of appeal against examiner's decision of rejection]
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CLAIMS

[Claim(s)]

[Claim 1] The disposal implement for endoscopes characterized by to prepare the connection for making free passage connection of the above-mentioned fluid channel at water supply equipment or an aspirator in a hand side while the member for performing disposal of [in a coelome] formed the fluid channel in the direction of a tube axis at the overall length over the inner tube by which insertion arrangement was carried out, and the outer tube it inserts [outer tube] in the channel of an endoscope and formed in a part for a point the hole which opens the above-mentioned fluid channel outside.

[Claim 2] The disposal implement for endoscopes according to claim 1 with which the above-mentioned outer tube and the inner tube are respectively formed with the flexible tube, and the crevice between both the above-mentioned tubes has become the above-mentioned fluid channel.

[Claim 3] The disposal implement for endoscopes according to claim 1 with which the above-mentioned outer tube and the inner tube are formed in one with the multi-lumen tube, and the lumen of the above-mentioned multi-lumen tube has become the above-mentioned fluid channel.

[Claim 4] The disposal implement for endoscopes according to claim 1, 2, or 3 whose member for performing disposal of [in the above-mentioned coelome] is injection equipment.

[Claim 5] The disposal implement for endoscopes according to claim 1, 2, or 3 whose member for performing disposal of [in the above-mentioned coelome] is a foreign matter recovery system.

[Claim 6] The disposal implement for endoscopes according to claim 1, 2, or 3 whose member for performing disposal of [in the above-mentioned coelome] is bioptome equipment.

[Claim 7] The disposal implement for endoscopes according to claim 1, 2, or 3 whose member for performing disposal of [in the above-mentioned coelome] is RF disposal equipment.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] This invention relates to the disposal implement for endoscopes inserted [implement] and used for the forceps channel of an endoscope.

[0002]

[Description of the Prior Art] When performing the hemostasis of esophageal varices, the office notes to a mucosa, etc., it is used inserting the injection implement for endoscopes in the forceps channel of an endoscope. In addition, it is used, inserting a RF disposal implement, a bioptome, etc. in the forceps channel of an endoscope.

[0003] Generally, in the flexible tube it inserts [tube] in the forceps channel of an endoscope, such a disposal implement for endoscopes carries out insertion arrangement of the member for performing disposal of [in a coelome], and is constituted.

[0004]

[Problem(s) to be Solved by the Invention] The conventional disposal implement for endoscopes constituted as mentioned above can perform disposal corresponding to the purpose respectively. However, when the part which is going to take a measure is covered with blood, mucus, etc., it is necessary to remove and wash the blood, mucus, etc. and to change into the state where a membrane side is well observable, first.

[0005] Therefore, it is necessary in such a case, to attract blood etc. through a suction tube to a forceps channel first, to replace with subsequently to the suction tube, and to wash a basal surface through a washing tube to a forceps channel, and it is necessary to extract a washing tube and to insert in a forceps channel the disposal implement made into the purpose.

[0006] However, since inserting [tubes / various kinds of] repeatedly to a forceps channel such requires time by the time it performs the target disposal, after carrying out suction removal of about / being very complicated /, the blood, etc., a basal surface may be again worn in blood etc. in the meantime.

[0007] Then, even if the part which is going to take a measure is covered with blood, mucus, etc., the blood, mucus, etc. are removed quickly, and this invention washes them, and aims at offering the disposal implement for endoscopes which can perform the target disposal easily and promptly.

[0008]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the disposal implement for endoscopes of this invention While the member for performing disposal of [in a coelome] forms a fluid channel in the direction of a tube axis at an overall length over the inner tube by which insertion arrangement was carried out, and the outer tube it inserts [outer tube] in the channel of an endoscope and forms in a part for a point the hole which opens the above-mentioned fluid channel outside It is characterized by preparing the connection for making free passage connection of the above-mentioned fluid channel at water supply equipment or an aspirator in a hand side.

[0009] And the above-mentioned outer tube and the inner tube are respectively formed with the flexible tube, the crevice between both the above-mentioned tubes may become the above-

mentioned fluid channel, the above-mentioned outer tube and the inner tube are formed in one with the multi-lumen tube, and the lumen of the above-mentioned multi-lumen tube may become the above-mentioned fluid channel.

[0010] In addition, the member for performing disposal of [in the above-mentioned coelome] may be injection equipment, a foreign matter recovery system, bioptome equipment, or RF disposal equipment.

[0011]

[Embodiments of the Invention] The gestalt of operation of this invention is explained with reference to a drawing. Drawing 1 shows the gestalt of operation of the 1st of this invention. 1 is an outer tube consists of a flexible tube made from for example, a tetrafluoroethylene resin etc., and the forceps channel of an endoscope inserts [outer tube], and the inner tube 2 which consists of a flexible tube made from a tetrafluoroethylene resin etc. is arranged in the interior at the same axle. Between the inner skin of an outer tube 1, and the peripheral face of an inner tube 2, sufficient crevice 4 to pour a liquid is secured and the portion is used as a fluid channel. Hereafter, the crevice 4 is called fluid channel 4.

[0012] a part for the point of an outer tube 1 is extracted thinly, and is joined to the peripheral face of an inner tube 2 watertight -- having --- **** --- the nose of cam of the product [portion / the] made from metal or plastics -- the mouthpiece 3 has fixed a nose of cam -- a mouthpiece 3 fits into the peripheral face for a point of an inner tube 2, and it is arranged so that the apical surface of an outer tube 1 may be contacted

[0013] a nose of cam -- the hole which is straightly open for free passage to the medial-axis line position of a mouthpiece 3 at an inner tube 2 -- 3a penetrates and is drilled Moreover, in the middle of the converging section for a point of an outer tube 1, opening formation of the hole 5 which opens a fluid channel 4 outside is carried out towards the front.

[0014] the end face of an inner tube 2 -- a end face -- it has connected and the mouthpiece 6 has fixed Moreover, the end-connection gold 7 for making a fluid channel 4 make free passage connection of water supply equipment and the aspirator which are not illustrated protrudes on *** 8 which connected with the end face of an outer tube 1, and fixed. a end face -- a mouthpiece 6 and *** 8 are screwed watertight and connected in one

[0015] Therefore, suction can be performed from the hole 5 at a nose of cam through a fluid channel 4 by connecting water supply equipment to end-connection gold 7 by being able to send in a penetrant remover etc. in a fluid channel 4, being able to make the penetrant remover blow off from the hole 5 at a nose of cam ahead, and connecting an aspirator to end-connection gold 7.

[0016] In the inner tube 2, the injection equipment for injecting the mucosa in a coelome etc. is arranged. 21 is an injection tube which consists of a flexible tube for letting an injection pass, and is inserted in in the direction of an axis covering the overall length in the inner tube 2 free [an attitude].

[0017] the nose of cam of the injection tube 21 -- a nose of cam -- the hypodermic needle 22 is attached free [***] from hole 3a of a mouthpiece 3 the end face of the injection tube 21 -- a end face -- the hand operation cylinder 23 which can be freely slid in the direction of an axis is attached in the mouthpiece 6

[0018] Glass syringe end-connection gold 24 is formed in the edge by the side of the hand of the hand operation cylinder 23, and an injection can be sent out from the point of a hypodermic needle 22 through the injection tube 21 by connecting to glass syringe end-connection gold 24 the glass syringe which is not illustrated.

[0019] the peripheral face of the hand operation cylinder 23 -- a end face -- two periphery slots 25 and 26 where O ring 9 arranged at the inner skin portion of a mouthpiece 6 is engaged open an interval in the direction of an axis, and are formed in it

[0020] therefore, the thing made for O ring 9 to engage with either of two periphery slots 25 and 26 -- a hypodermic needle 22 -- a nose of cam -- the state where it withdrew in the mouthpiece 3, and a hypodermic needle 22 -- a protrusion -- click fixation of the injection equipment 20 can be carried out in each state of a state the bottom

[0021] Drawing 2 shows the state where made O ring 9 engage with the 2nd periphery slot 26,

and the hypodermic needle 22 was made to project. the injection tube 21 pushed by the hand operation cylinder 23 in this state — the front — moving — it — a hypodermic needle 22 — a nose of cam — it extrudes from hole 3a of a mouthpiece 3

[0022] Thus, at the time of use, as shown in drawing 3, the forceps channel 11 of an endoscope 10 lets the disposal implement for endoscopes of the gestalt of the constituted operation pass, and it is projected from the insertion section nose of cam of an endoscope 10 so that the amount of point may turn to the affected part 100.

[0023] And where a hypodermic needle 22 is drawn in, a penetrant remover is sent in from the water supply equipment linked to end-connection gold 7, a penetrant remover is sprayed on the blood 101 grade which has covered the affected part 100, and the affected part 100 is often washed. When the penetrant remover needs to be attracted, an aspirator is connected to end-connection gold 7, and suction is performed from the hole 5 at a nose of cam.

[0024] If the affected part 100 becomes beautiful, as shown in drawing 4, a hypodermic needle 22 will be made to project from a nose of cam, and it will inject by thrusting into the affected part 100. If injection finishes, a hypodermic needle 22 will be drawn in and evulsion of the disposal implement for endoscopes will be carried out from the forceps channel 11.

[0025] Drawing 5 and drawing 6 are the side cross sections and transverse-plane cross sections for a point of a gestalt of operation of the 2nd of the invention in this application, and form an outer tube 31 and an inner tube 32 in one with the multi-lumen tube 30. Other portions are the same as the gestalt of the 1st operation of a ***.

[0026] In this example, three lumens formed between outer-tube 31 portion and inner-tube 32 portion become a fluid channel 34, and the breakthrough portion inside inner-tube 32 portion lets the injection tube 21 of injection equipment 20 pass. In addition, ***** [the number of lumens / how many].

[0027] Drawing 7 and drawing 8 are the whole disposal implement external view for endoscopes of the gestalt of operation of the 3rd of the invention in this application, and a side cross section for a point, into an inner tube 2, are replaced with injection equipment 20 and carry out insertion arrangement of the basket equipment 40 for foreign matter recovery.

[0028] In the inner tube 2, the operation wire 41 of the basket equipment 40 for foreign matter recovery is inserted in. And in the control unit 43 prepared in the end face section (hand side edge section), by carrying out sliding operation of the slider 43b to control unit main part 43a, the attitude drive of the operation wire 41 is carried out in the direction of an axis, and the basket 42 at a nose of cam goes in and out in an inner tube 2, and carries out pinch-and-swell by it. the same nose of cam as the gestalt of the 1st operation — although not prepared, you may prepare a mouthpiece

[0029] moreover, the end face connected with the end face section of an inner tube 2 — end-connection gold 7 and the same contrast-medium inlet gold 47 are attached in the mouthpiece 6, it is open for free passage in an inner tube 2, and a contrast medium can be sent out from the nose of cam of an inner tube 2

[0030] And from the hole 5 which carries out opening at a nose of cam, as shown in drawing 8, since it passes along the fluid channel 4 between an outer tube 1 and an inner tube 2, and a wash water can be made to be able to blow off to a mucosal surface or the sewage in a coelome can be attracted to it, grasping recovery of the foreign matter can be carried out easily.

[0031] Drawing 9 and drawing 10 are the whole disposal implement external view for endoscopes of the gestalt of operation of the 4th of the invention in this application, and a side cross section for a point, and carry out insertion arrangement of the operation wire 51 of bioptome equipment 50 into an inner tube 2.

[0032] And the forceps cup 52 opens [by carrying out sliding operation of the slider 53b to control unit main part 53a, / the attitude drive of the operation wire 51 is carried out in the direction of an axis, and] in the control unit 53 prepared in the end face section (hand side edge section), and closes through the link mechanism 54 at a nose of cam by it.

[0033] And a biopsy organization is extractable, after it passes along the fluid channel 4 between an outer tube 1 and an inner tube 2, and being able to make a wash water able to blow off to a mucosal surface, or being able to attract the sewage in a coelome and cleaning a mucosal

surface from the hole 5 which carries out opening at a nose of cam, as shown in drawing 10.
[0034] In addition, this invention is not limited to the gestalt of the above-mentioned implementation, and may carry out insertion arrangement of what disposal equipments, such as RF disposal equipment which uses the high frequency current, into an inner tube 2.

[0035]

[Effect of the Invention] According to this invention, even if the part which is going to take a measure by having made between the outer tube of the disposal implement for endoscopes and inner tubes into the fluid channel, and having carried out insertion arrangement of the member for performing disposal of [in a coelome] into the inner tube is covered with blood, mucus, etc., disposal taken removed and washing blood, mucus, etc. with one disposal implement and the purpose can be performed quickly and easily.

[Translation done.]

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TECHNICAL FIELD

[The technical field to which invention belongs] This invention relates to the disposal implement for endoscopes inserted [implement] and used for the forceps channel of an endoscope.

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PRIOR ART

[Description of the Prior Art] When performing **** of an esophagus varix, the office notes to membrane, etc., it is used inserting the injection implement for endoscopes in the forceps channel of an endoscope. In addition, it is used, inserting a RF disposal implement, a bioptome, etc. in the forceps channel of an endoscope.

[0003] Generally, in the flexible tube it inserts [tube] in the forceps channel of an endoscope, such a disposal implement for endoscopes carries out insertion arrangement of the member for performing disposal of [in a coelome], and is constituted.

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EFFECT OF THE INVENTION

[Effect of the Invention] According to this invention, even if the part which is going to take a measure by having made between the outer tube of the disposal implement for endoscopes and inner tubes into the fluid channel, and having carried out insertion arrangement of the member for performing disposal of [in a coelome] into the inner tube is covered with blood, mucus, etc., disposal taken removed and washing blood, mucus, etc. with one disposal implement and the purpose can be performed quickly and easily.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] The conventional disposal implement for endoscopes constituted as mentioned above can perform disposal corresponding to the purpose respectively. However, when the part which is going to take a measure is covered with blood, mucus, etc., it is necessary to remove and wash the blood, mucus, etc. and to change into the state where a membrane side is well observable, first.

[0005] Therefore, it is necessary in such a case, to attract blood etc. through a suction tube to a forceps channel first, to replace with subsequently to the suction tube, and to wash a membrane side through a washing tube to a forceps channel, and it is necessary to extract a washing tube and to insert in a forceps channel the disposal implement made into the purpose.

[0006] However, since inserting [tubes / various kinds of] repeatedly to a forceps channel such requires time by the time it performs the target disposal, after carrying out suction removal of about / being very complicated /, the blood, etc., a membrane side may be again worn in blood etc. in the meantime.

[0007] Then, even if the part which is going to take a measure is covered with blood, mucus, etc., the blood, mucus, etc. are removed quickly, and this invention washes them, and aims at offering the disposal implement for endoscopes which can perform the target disposal easily and promptly.

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MEANS

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the disposal implement for endoscopes of this invention While the member for performing disposal of [in a coelome] forms a fluid channel in the direction of a tube axis at an overall length over the inner tube by which insertion arrangement was carried out, and the outer tube it inserts [outer tube] in the channel of an endoscope and forms in a part for a point the hole which opens the above-mentioned fluid channel outside It is characterized by preparing the connection for making free passage connection of the above-mentioned fluid channel at water supply equipment or an aspirator in a hand side.

[0009] And the above-mentioned outer tube and the inner tube are respectively formed with the flexible tube, the crevice between both the above-mentioned tubes may become the above-mentioned fluid channel, the above-mentioned outer tube and the inner tube are formed in one with the multi-lumen tube, and the lumen of the above-mentioned multi-lumen tube may become the above-mentioned fluid channel.

[0010] In addition, the member for performing disposal of [in the above-mentioned coelome] may be injection equipment, a foreign matter recovery system, bioptome equipment, or RF disposal equipment.

[0011]

[Embodiments of the Invention] The gestalt of operation of this invention is explained with reference to a drawing. Drawing 1 shows the gestalt of operation of the 1st of this invention. 1 is an outer tube consists of a flexible tube made from for example, a tetrafluoroethylene resin etc., and the forceps channel of an endoscope inserts [outer tube], and the inner tube 2 which consists of a flexible tube made from a tetrafluoroethylene resin etc. is arranged in the interior at the same axle. Between the inner skin of an outer tube 1, and the peripheral face of an inner tube 2, sufficient crevice 4 to pour a liquid is secured and the portion is used as a fluid channel. Hereafter, the crevice 4 is called fluid channel 4.

[0012]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the side cross section of the gestalt of operation of the 1st of this invention.

[Drawing 2] It is a side cross section for a point in the state where the gestalten of operation of the 1st of this invention differ.

[Drawing 3] It is the sketch for a point of the busy condition of the gestalt of operation of the 1st of this invention.

[Drawing 4] It is the sketch for a point of the busy condition of the gestalt of operation of the 1st of this invention.

[Drawing 5] It is the side cross section for a point of the gestalt of operation of the 2nd of this invention.

[Drawing 6] It is the transverse-plane cross section of the gestalt of operation of the 2nd of this invention.

[Drawing 7] It is the external view of the gestalt of operation of the 3rd of this invention.

[Drawing 8] It is the side cross section for a point of the gestalt of operation of the 3rd of this invention.

[Drawing 9] It is the side elevation of the gestalt of operation of the 4th of this invention.

[Drawing 10] It is the side cross section for a point of the gestalt of operation of the 4th of this invention.

[Description of Notations]

1 31 Outer tube

2 32 Inner tube

4 34 Fluid channel

5 Hole

7 End-Connection Gold

10 Endoscope

11 Forceps Channel

20 Injection Equipment

30 Multi-Lumen Tube

40 Basket Equipment for Foreign Matter Recovery

50 Bioptome Equipment

[Translation done.]

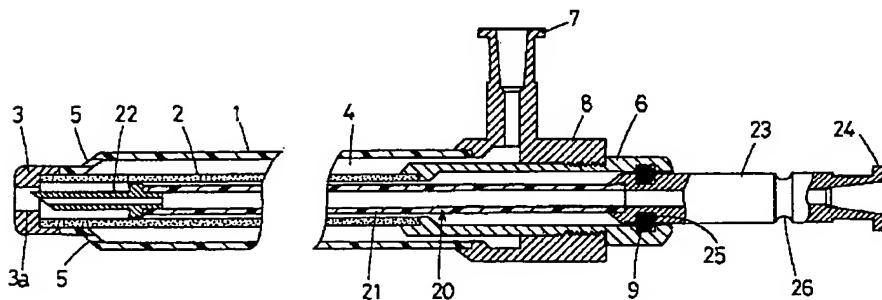
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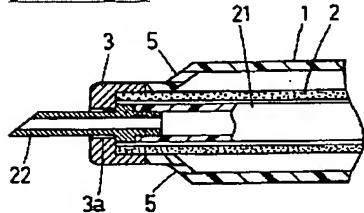
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DRAWINGS

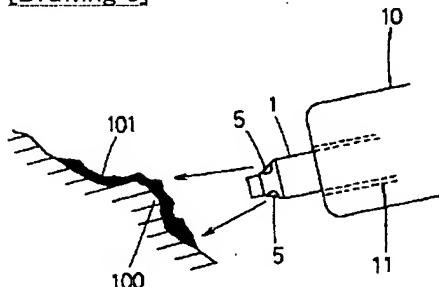
[Drawing 1]



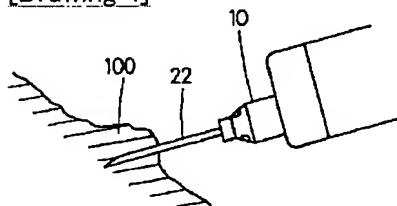
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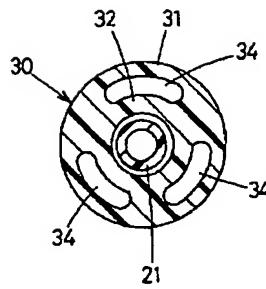
[Drawing 3]



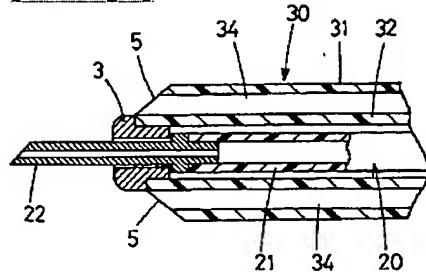
[Drawing 4]



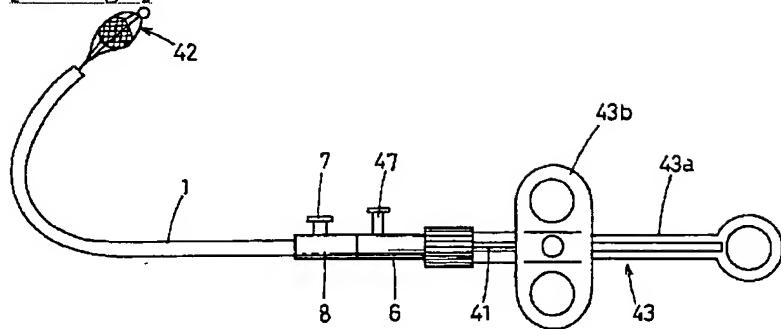
[Drawing 6]



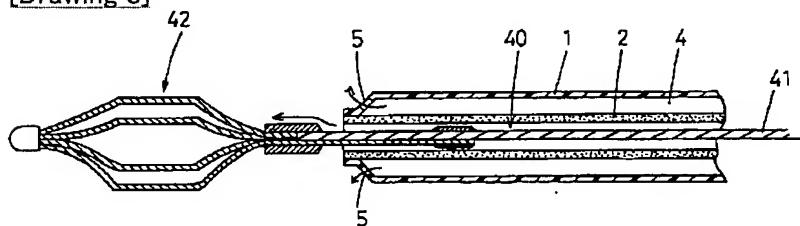
[Drawing 5]



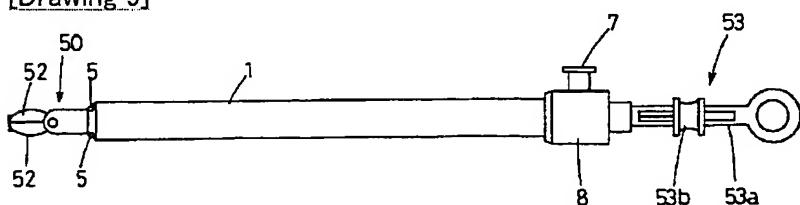
[Drawing 7]



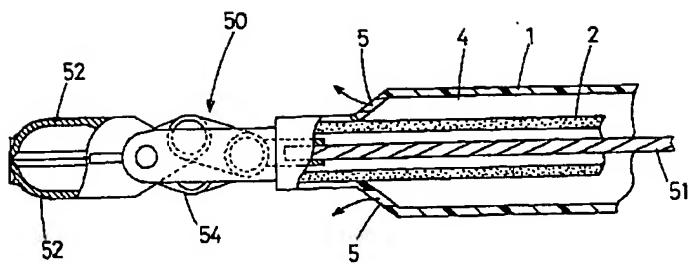
[Drawing 8]



[Drawing 9]



[Drawing 10]



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